

What is claimed is:

1. A substantially purified polynucleotide comprising a gene that is coexpressed with one or more neurotransmitter-processing-specific genes in a plurality of biological samples, wherein each neurotransmitter-processing-specific gene is selected from the group consisting of L-tyrosine hydroxylase (TH), aromatic amino acid decarboxylase (AADC), dopamine β -hydroxylase (DBH), nicotinic acetylcholine receptor α 3 subunit precursor (nAChR- α 3), secretogranin I and II, Rab3a, human cocaine and amphetamine regulated transcript (hCART), vesicular monoamine transporter 1 (hVMAT1), and ARIX homeodomain protein.

Sub B1

2. The polynucleotide of claim 1, comprising a polynucleotide sequence selected from:

15 (a) a polynucleotide sequence selected from the group consisting of SEQ ID NOs: 1-5;

(b) a polynucleotide sequence which encodes the polypeptide sequence of SEQ ID NO: 6;

15 (c) a polynucleotide sequence which is complementary to the polynucleotide sequence of (a) or (b);

(d) a probe which hybridizes to the polynucleotide of (a), (b), or (c).

20 3. A substantially purified polypeptide comprising the gene product of a gene that is coexpressed with one or more neurotransmitter-processing-specific genes in a plurality of biological samples, wherein each neurotransmitter-processing-specific gene is selected from the group consisting of L-tyrosine hydroxylase (TH), aromatic amino acid decarboxylase (AADC), dopamine β -hydroxylase (DBH), nicotinic acetylcholine receptor α 3 subunit precursor (nAChR- α 3), secretogranin I and II, Rab3a, human cocaine and amphetamine regulated transcript (hCART), vesicular monoamine transporter 1 (hVMAT1), and ARIX homeodomain protein.

Sub B2

25 4. The polypeptide of claim 3, comprising a polypeptide sequence selected from:

(a) the polypeptide sequence of SEQ ID NO: 6;

(b) a polypeptide sequence comprising at least 6 sequential amino acids of the polypeptide sequence of (a).

5. An expression vector comprising the polynucleotide of claim 2.

6. A host cell comprising the expression vector of claim 5.

Sub B3

30 7. A pharmaceutical composition comprising the polynucleotide of claim 2 in conjunction with a suitable pharmaceutical carrier.

8. A pharmaceutical composition comprising the polypeptide of claim 4 in conjunction with a suitable pharmaceutical carrier.

9. An antibody which specifically binds to the polypeptide of claim 4.
10. A method for diagnosing a disease or condition associated with the altered expression of a gene that is coexpressed with one or more neurotransmitter-processing-specific genes, wherein each neurotransmitter-processing-specific gene is selected from the group consisting of
- 5 L-tyrosine hydroxylase (TH), aromatic amino acid decarboxylase (AADC), dopamine β -hydroxylase (DBH), nicotinic acetylcholine receptor α 3 subunit precursor (nAChR- α 3), secretogranin I and II, Rab3a, human cocaine and amphetamine regulated transcript (hCART), vesicular monoamine transporter 1 (hVMAT1), and ARIX homeodomain protein, the method comprising the steps of:
- 10 (a) providing a sample comprising one of more of said coexpressed genes;
- (b) hybridizing the polynucleotide of claim 2 to said coexpressed genes under conditions effective to form one or more hybridization complexes; and
- (c) detecting the hybridization complexes, wherein the presence of the hybridization complexes correlates with the presence of the disease or condition.
- 15 11. A method for treating or preventing a disease associated with the altered expression of a gene that is coexpressed with one or more neurotransmitter-processing-specific genes in a subject in need, wherein each neurotransmitter-processing-specific gene is selected from the group consisting of L-tyrosine hydroxylase (TH), aromatic amino acid decarboxylase (AADC), dopamine β -hydroxylase (DBH), nicotinic acetylcholine receptor α 3 subunit precursor (nAChR- α 3), secretogranin I and II, Rab3a, human cocaine and amphetamine regulated transcript (hCART), vesicular monoamine transporter 1 (hVMAT1), and ARIX homeodomain protein, the method comprising the step of administering to said subject in need the pharmaceutical composition of claim 7 in an amount effective for treating or preventing said disease.

Add B4